



Technical Memorandum

To: Jeff Deville – Watertown Municipal Utilities

From: Steve Burian, PE *Steve Burian, P.E.*
Richard Wagner, PE *Richard A. Wagner, P.E.*

Re: Analysis of Sioux Rural Water Capacity to Serve West Side and East Side

Date: August 12, 2016

Introduction

Advanced Engineering and Environmental Services, Inc. (AE2S) has been retained by Watertown Municipal Utilities (WMU) as an expert consultant to review the Watertown Service Area Report (WSAR), prepared by DGR Engineering for the Sioux Rural Water (SRW) System dated February 2016. This technical memorandum (TM) is a summary of the AE2S review and includes an evaluation of the SRW System capacity to serve areas to the east and west of the City of Watertown.

References

AE2S was provided a copy of the WSAR from WMU. The WSAR includes a five page overview of the SRW system, including background information, the Watertown service area, and a summary of the Sioux Water Treatment Plant (WTP). In addition, the WSAR includes a resume for Darin Schriever, PE in Appendix A, a preliminary engineering report for the Sioux Rural Water System in Appendix B, a preliminary engineering report addendum in Appendix C, proposed distribution improvements in Appendix D, and hydraulic modeling results in Appendix E.

Additional information was also provided by WMU, including historical water usage, building water service pipe size, and date of connection to WMU for specific users. This information is shown within this TM. WMU also provided information on the current city limits of Watertown which is labeled as Attachment No. 1. Attachment No. 2 and Attachment No. 3 are enlarged maps showing the West Side and the East Side, respectively, which reference the same areas as

Think Big. Go Beyond.



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EXHIBIT

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Exhibit A

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consumption history than 5,500 g/c/m. Table 3 – Historical Annual Water Usage shows the total water use per year along with the average monthly water usage for each of these users.

Table 3 – Historical Annual Water Usage

East Side User	Annual Water Usage (gal)			Average Monthly Usage (gal)		
	2013	2014	2015	2013	2014	2015
Big Shot Fireworks	NA	NA	748	NA	NA	62*
Cross Country Couriers	NA	NA	15,708	NA	NA	1,309*
Dakota Automation	132,396	48,620	47,872	11,033	4,052	3,989
Fed Ex	32,164	25,432	29,920	2,680	2,119	2,493
Randy Hartley	59,840	60,588	54,604	4,987	5,049	4,550
Watertown Truck & Trailer	86,020	84,524	118,932	7,168	7,044	9,911
Lew's Fireworks	17,204	20,196	21,692	1,434	1,683	1,808
McFleegs	32,912	48,620	23,188	2,743	4,052	1,932
Rising Star	364,276	448,052	423,368	30,356	37,338	35,281
Jim Aesoph – Car Wash	NA	NA	748	NA	NA	62*
Jim Aesoph	8,976	10,472	7,480	748*	873*	623*
Wheelco	13,464	47,124	63,580	1,122	3,927	5,298
Wayne Weelborg	110,704	190,956	61,336	9,225	9,163	5,111

* Values may not reflect true monthly usage due to intermittent water use (i.e. seasonal variability)

As can be seen in Table 3, the 5,500 g/c/m average monthly assumption appears to initially be adequate for all of these users except two, Watertown Truck and Trailer and Rising Star.

Recognizing that some of these users consist of unique businesses that have irregular water demand from one month to the next, however, further investigation into their water usage is necessary. Table 4 – Peak Monthly Water Usage was prepared to indicate the month each user used the most water and also show the magnitude of their usage. This table shows the month that had the highest water usage for years 2013, 2014, and 2015.